



Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

UTXB:715US

Serial No.

10/620,278

Applicant

Barrett R. Harvey *et al.*

Filing Date:

July 15, 2003

Group:

1645

U.S. Patent Documents

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Foreign Patent Documents

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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	5,233,409	8/03/93	Schwab	356	402	2/25/92
	A2	5,571,698	11/05/96	Ladner <i>et al.</i>	435	69.7	6/18/93
	A3	5,780,279	7/14/98	Mathews <i>et al.</i>	435	172.3	4/05/95
	A4	5,824,520	10/20/98	Mulligan-Kehoe	435	91.41	7/19/97
	A5	5,837,500	11/17/98	Ladner <i>et al.</i>	435	69.7	4/03/95
	A6	5,922,545	7/13/99	Mattheakis and Dower	435	6	7/29/97

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
<i>MS</i>	C1	Boder <i>et al.</i> , "Directed evolution of antibody fragments with monovalent femtomolar antigen-binding affinity," <i>Proc. Natl. Acad. Sci. USA</i> , 97(20):10701-10705, 2000.
	C2	Burioni <i>et al.</i> , "A new subtraction technique for molecular cloning of rare antiviral antibody specificities from phage display libraries," <i>Res. Virol.</i> , 149:327-330, 1998.
	C3	Burman <i>et al.</i> , <i>J. Bacteriol.</i> , "Murein and the outer penetration barrier of <i>Escherichia coli</i> K-12, <i>Proteus mirabilis</i> , and <i>Pseudomonas aeruginosa</i> ," <i>Journal of Bacteriology</i> , 112(3):1364-1374, 1972.
	C4	Chen <i>et al.</i> , "Selection and analysis of an optimized anti-VEGF antibody: crystal structure of an affinity-matured Fab in complex with antigen," <i>J. Mol. Biol.</i> , 293:865, 1999.
	C5	Chen <i>et al.</i> , <i>Nat. Biotechnol.</i> , "Isolation of high-affinity ligand-binding proteins by periplasmic expression with cytometric screening (PECS)," 19(6):537-542, 2001.

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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
MA	C6	Chen <i>et al.</i> , "In vitro scanning saturation mutagenesis of all the specificity determining residues in an antibody binding site," <i>Protein Eng.</i> , 12(4):349-356, 1999.
	C7	Chowdhury and Pastan, "Improving antibody affinity by mimicking somatic hypermutation in vitro," <i>Nat. Biotech.</i> , 17:568, 1999.
	C8	Coia <i>et al.</i> , "Use of mutator cells as a means for increasing production levels of a recombinant antibody directed against Hepatitis B," <i>Gene</i> , 201:203, 1997.
	C9	Corey <i>et al.</i> , "Trypsin display on the surface of bacteriophage," <i>Gene</i> , 128:129, 1993.
	C10	Dall'Aqua and Carter, "Antibody engineering," <i>Curr. Opin. Struct. Biol.</i> , 8:443, 1998.
	C11	Daugherty <i>et al.</i> , "Flow cytometric screening of cell-based libraries," <i>J. Immunol. Methods</i> , 243:211, 2000.
	C12	Daugherty <i>et al.</i> , "Quantitative analysis of the effect of the mutation frequency on the affinity maturation of single chain Fv antibodies," <i>Proc. Natl. Acad. Sci. USA</i> , 97:2029-2034, 2000.
	C13	Daugherty <i>et al.</i> , "Development of an optimized expression system for the screening of antibody libraries displayed on the Escherichia coli surface," <i>Protein Eng.</i> , 12:613-621, 1999.
	C14	de Haard <i>et al.</i> , "A large non-immunized human fab fragment phage library that permits rapid isolation and kinetic analysis of high affinity antibodies," <i>J. Biol. Chem.</i> , 274:18218, 1999.
	C15	De Haard <i>et al.</i> , "Creating and engineering human antibodies for immunotherapy," <i>Advanced Drug Delivery Reviews</i> , 31:5-31, 1998.
	C16	Decad and Nikaido, "Outer membrane of gram-negative bacteria," <i>J. Bacteriol.</i> , 128:325, 1976.
	C17	Deng <i>et al.</i> , "Selection of antibody single-chain variable fragments with improved carbohydrate binding by phage display," <i>J. Biol. Chem.</i> , 269:9533, 1994.
	C18	Deng <i>et al.</i> , "Basis for selection of improved carbohydrate-binding single-chain antibodies from synthetic gene libraries," <i>Proc. Natl. Acad. Sci. USA</i> , 92:4992, 1995.
	C19	deWilt <i>et al.</i> , "Antibody arrays for high-throughput screening of antibody-antigen interactions," <i>Nat. Biotechnol.</i> , 18:989, 2000.
✓	C20	Dueñas and Borrebaeck, "Clonal selection and amplification of phage displayed antibodies by linking antigen recognition and phage recognition," <i>Biotechnology</i> , 12:999, 1994.

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MS	C21	Georgiou <i>et al.</i> , "Display of heterologous proteins on the surface of microorganisms: from the screening of combinatorial libraries to live recombinant vaccines," <i>Nat. Biotechnol.</i> , 15:29-34, 1997.
	C22	Georgiou, "Analysis of large libraries of protein mutants using flow cytometry," <i>Adv. Protein Chem.</i> , 55:293-315, 2000.
	C23	Giep <i>et al.</i> , "pSKAP/S: an expression vector for the production of single-chain Fv alkaline phosphatase fusion proteins," <i>Prot. Exp. Purif.</i> , 16:63-69, 1999.
	C24	Griffiths <i>et al.</i> , "Isolation of high affinity human antibodies directly from large synthetic repertoires," <i>EMBO J.</i> , 13:3245-3260, 1994.
	C25	Hawkins <i>et al.</i> , "Selection of phage antibodies by binding affinity mimicking affinity maturation," <i>J. Mol. Biol.</i> , 226:889-896, 1992.
	C26	Hayhurst and Georgiou, "High-throughput antibody isolation," <i>Curr. Opin. Chem. Biol.</i> , 5:683-689, 2001.
	C27	Hayhurst <i>et al.</i> , "Isolation and expression of recombinant antibody fragments to the biological warfare pathogen brucella melitensis," <i>J. Immunol. Methods</i> , 276:185-196, 2003
	C28	Hayhurst, "Improved expression characteristics of single-chain Fv fragments when downstream of the Escherichia coli maltose-binding protein or upstream of a single immunoglobulin-constant domain," <i>Protein Expr. Purif.</i> , 18:1-10, 2000.
	C29	Hoess, <i>Chem. Rev.</i> , "Protein design and phage display," 101:3205-3218, 2001.
	C30	Hoichen <i>et al.</i> , <i>Applied and Environmental Microbiology</i> , "Novel bacterial membrane surface display system using cell wall-less L-forms of proteus mirabilis and escherichia coli," 68(2):525-531, 2002.
	C31	Hudson <i>et al.</i> , "Recombinant antibody fragments," <i>Curr. Opin. Biotechnol.</i> , 9:395, 1998.
	C32	Hultgren <i>et al.</i> , "Pilus and nonpilus bacterial adhesins: assembly and function in cell recognition," <i>Cell</i> , 73:887-901, 1993..
	C33	Johns <i>et al.</i> , "In vivo selection of sFv from phage display libraries," <i>J. Immunol. Methods</i> , 239:137-151, 2000.
	C34	Kjaer <i>et al.</i> , "Glycerol diversifies phage repertoire selections and lowers non-specific phage absorption," <i>FEBS Lett.</i> , 431:448-452, 1998.

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<i>MA</i>	C35	Knappik <i>et al.</i> , "Fully synthetic human combinatorial antibody libraries (HuCAL) based on modular consensus frameworks and CDRs randomized with trinucleotides," <i>J. Mol. Biol.</i> , 296:57-86, 2000.
	C36	Krebber <i>et al.</i> , "Inclusion of an upstream transcriptional terminator in phage display vectors abolishes background expression of toxic fusions with coat protein g3p," <i>Gene</i> , 178:71-74, 1996.
	C37	Krebber <i>et al.</i> , "Reliable cloning of functional antibody variable domains from hybridomas and spleen cell repertoires employing a reengineered phage display system," <i>J. Immunol. Methods</i> , 201:35-55, 1997.
	C38	Levitan, "Stochastic modeling and optimization of phage display," <i>J. Mol. Biol.</i> , 277:893-916, 1998.
	C39	Low <i>et al.</i> , "Mimicking somatic hypermutation: affinity maturation of antibodies displayed on bacteriophage using a bacterial mutator strain," <i>J. Mol. Biol.</i> , 260: 359-368, 1996.
	C40	MacKenzie and To, "The role of valency in the selection of anti-carbohydrate single-chain Fvs from phage display libraries," <i>J. Immunol. Methods</i> , 220:39-49, 1998.
	C41	MacKenzie <i>et al.</i> , "Analysis by surface plasmon resonance of the influence of valence on the ligand binding affinity and kinetics of an anti-carbohydrate antibody," <i>J. Biol. Chem.</i> , 271(3):1527-1533, 1996.
	C42	Maenaka <i>et al.</i> , "A stable phage-display system using a phagemid vector: phage display of hen egg-white lysozyme (HEL), Escherichia coli alkaline phosphatase, and anti-HEL monoclonal antibody, HyHEL10," <i>Biochem. Biophys. Res. Commun.</i> , 218:682, 1996.
	C43	Malmberg <i>et al.</i> , "Selection of binders from phage displayed antibody libraries using the BIAcore biosensor," <i>J. Immunol. Methods</i> , 198:51-57, 1996.
	C44	Maynard and Georgiou, "Antibody Engineering," <i>Annu. Rev. Biomed. Eng.</i> , 339-76, 2000.
	C45	Maynard <i>et al.</i> , "Protection against anthrax toxin by recombinant antibody fragments correlates with antigen affinity," <i>Nat. Biotechnol.</i> , 20:597-601, 2002.
	C46	Mingarro <i>et al.</i> , "Membrane-protein engineering," <i>Trends Biotechnol.</i> , 15:432-437, 1997.
<i>V</i>	C47	Miroux and Walker, "Over-production of proteins in Escherichia coli: mutant hosts that allow synthesis of some membrane proteins and globular proteins at high levels," <i>J. Mol. Biol.</i> , 260:289-298, 1996.

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	C48	Mutuberria <i>et al.</i> , "Model systems to study the parameters determining the success of phage antibody selections on complex antigens," <i>J. Immunol. Methods</i> , 231:65-81, 1999.
	C49	Nikaido and Vaara, "Molecular basis of bacterial outer membrane permeability," <i>Microbiol. Rev.</i> , 49(1):1-32, 1985.
	C50	Nikaido, "Multidrug efflux pumps of gram-negative bacteria," <i>Journal of Bacteriology</i> , 178(20):5853-5859, 1996.
	C51	Oliver, "Periplasm," 88-103, 1996.
	C52	Pini <i>et al.</i> , "Design and use of a phage display library," <i>J. Biol. Chem.</i> , 273(34):21769, 1998.
	C53	Pugsley, "The complete general secretory pathway in gram-negative bacteria," <i>Microbiol. Rev.</i> , 57(1):50-108, 1993.
	C54	Rodi and Makowski, "Phage-display technology-finding a needle in a vast molecular haystack," <i>Curr. Opin. Biotechnol.</i> , 10:87-93, 1999.
	C55	Sagt <i>et al.</i> , "Impaired cutinase secretion in <i>Saccharomyces cerevisiae</i> induces irregular endoplasmic reticulum (ER) membran proliferation, oxidative stress, and ER-associated degradation," <i>Appl. Environ. Microbiol.</i> , 68(5):2155-2160, 2002.
	C56	Sblattero and Bradbury, "Exploiting recombination in single bacteria to make large phage antibody libraries," <i>Nat. Biotechnol.</i> , 18:75-80, 2000.
	C57	Seydel <i>et al.</i> , "Testing the '2+ rule' for lipoprotein sorting in the <i>Escherichia coli</i> cell envelope with a new genetic selection," <i>Mol. Microbiol.</i> , 34(4):810-821, 1999.
	C58	Sheets <i>et al.</i> , "Efficient construction of a large nonimmune phage antibody library: the production of high-affinity human single-chain antibodies to protein antigens," <i>Proc. Natl. Acad. Sci. USA</i> , 95:6157-6162, 1998.
	C59	Shusta <i>et al.</i> , "Yeast polypeptide fusion surface display levels predict thermal stability and soluble secretion efficiency," <i>J. Micro. Biol.</i> , 292:949-956, 1999.
	C60	Stathopoulos <i>et al.</i> , "Characterization of <i>Escherichia coli</i> expressing an Lpp'OmpA(46-159)-PhoA fusion protein localized in the outer membrane," <i>Appl. Microbiol. Biotechnol.</i> , 45:112-119, 1996.

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	C61	Thompson <i>et al.</i> , "Affinity maturation of a high-affinity human monoclonal antibody against the third hypervariable loop of human immunodeficiency virus: use of phage display to improve affinity and broaden strain reactivity," <i>J. Mol. Biol.</i> , 256:77-88, 1996.
	C62	Vaughan <i>et al.</i> , "Human antibodies with sub-nanometer affinities isolated from a large non-immunized phage display library," <i>Nat. Biotechnol.</i> , 14:309-314, 1996.
	C63	Wittrup, "The single cell as a microplate well," <i>Nat. Biotechnol.</i> , 18:1039-1040, 2000.
	C64	Yakushi <i>et al.</i> , "Lethality of the covalent linkage between mislocalized major outer membrane lipoprotein and the peptidoglycan of <i>Escherichia coli</i> ," <i>Journal of Bacteriology</i> , 179(9):2857, 1997.
	C65	Yakushi <i>et al.</i> , "A new ABC transporter mediating the detachment of lipid-modified proteins from membranes," <i>Nat. Cell. Biol.</i> , 2:212-218, 2000.
	C66	Yamaguchi, "A single amino acid determinant of the membrane localization of lipoproteins in <i>E. coli</i> ," <i>Cell</i> , 53(3):423-432, 1988.
	C67	Yu <i>et al.</i> , "Lipoprotein-28, a cytoplasmic membrane lipoprotein from <i>Escherichia coli</i> ," <i>J. Biol. Chem.</i> , 261(5):2284-2288, 1986.
	C68	Co-pending U.S. Patent Application Number 09/699,023 (UTSB:675US), filed on October 27, 2000.
	C69	Co-pending U.S. Patent Application Number 10/620,049 (UTSB:721US), filed on July 15, 2002..

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